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emy and of the Chamber of Deputies; and an elaborate Memoir of his life and writings was communicated to the Revue des Deux Mondes (November, 1875) by his life-long friend, M. Duvergier de Hauranne, in which ample justice was done to him as an eminent writer, a religious philosopher, and a constant and able supporter of liberal principles.

The United States Minister to France (Mr. Washburne), in a published despatch to the State Department at Washington (18 June, 1875), after alluding to the friendship which M. de Rémusat had always manifested for our country and its institutions, speaks of him as follows: "To quick intelligence and rare culture he united the simplest manners and most unaffected modesty. His genial disposition, the graces of his spirit, and the charm of his conversation, left upon all the impression of his purity and worth as a citizen, his accomplishments as a statesman, and his fidelity, honesty, and patriotism as a public servant. The love of France was the hope and inspiration of his life. . . . Though always holding liberal opinions, his inclinations were monarchical; but, yielding to the logic of events and the demands of circumstances, it was his judgment that the Republic was the only form of Government that could give peace and safety to France."

He was elected a member of this Academy on the 12th of November, 1873.

SIR CHARLES WHEATSTONE.

Charles Wheatstone was born at Gloucester, in the year 1802. His early education appears to have been very limited; but he displayed, as a boy, a strong taste for mechanics, and especially for the construction or modification of musical instruments. He began his scientific career with the study of acoustics, and made numerous original experiments and researches, his first paper appearing in the "Annals of Philosophy," in 1823. For some years he was a dealer in musical instruments; but he soon began to direct his attention to other subjects, and in 1834 published the results of a series of experiments on the velocity of electricity, made with apparatus constructed for him by the late Mr. Joseph Saxton, of Washington. The progress of science has shown that Wheatstone's experiments led him to conclusions which were in some respects untenable; but his paper was received with acclamation, and certainly gave a decided impulse to the science of electricity. The application of the revolving mirror to the measurement of very small intervals of time was the germ of the later determination of the velocity of light by Fizeau and Foucault. In 1837, Wheatstone associated himself with Cooke in a new attempt to solve the often mooted problem of an electric telegraph. The history of Wheatstone's share in the invention has often been written. He was not the first inventor of an electric telegraph. He was not even the first who attempted to carry into execution a clearly defined scientific conception. But he brought to the practical solution of the problem great mechanical resources, with extraordinary energy and perseverance, and in the end he triumphed in England exactly as Morse triumphed in this country, — triumphed by the tenacity of his intellectual grasp of the subject, by unflagging perseverance and unwavering faith. In estimating Wheatstone's merit in connection with the development of the electric telegraph, the eminent services rendered by his partner, Cooke, must not be forgotten. The two together did for England what Morse alone did for this country; but the special methods of Cooke and Wheatstone are already nearly forgotten, while those of Morse are in almost universal use. The list of Wheatstone's papers in the catalogue of the Royal Society includes only thirty titles. In 1838, he published his first paper on binocular vision, and during the same year he gave to the world the earliest form of the stereoscope. He seems to have considered the subject from a purely scientific point of view, and the form which he gave to the instrument was not adapted to popular use. The invention of the lenticular stereoscope by Sir David Brewster was the next step; but the full beauty and usefulness of the invention did not appear until after the discovery of the art of photography. With the somewhat bitter controversy which followed Brewster's improvement, we have nothing to do. To Wheatstone belongs the creation, not merely of a scientific instrument which almost takes rank with the microscope and telescope, not merely of a toy which has found its way to the households of all civilized races of men, and which is an unfailing source of cultivated and refined pleasure, but of a whole branch of physiological optics, the science of binocular vision, applicable to color as well as to form, and full of fruits of usefulness and beauty. In 1843, Wheatstone rendered another great service to science by the publication of a memoir on new instruments and processes for the determination of the constants of a voltaic circuit. In this paper he made known to England, and we believe we may also say to America, the theory of the galvanic circuit first proposed by Ohm. He gave to the applications of the theory a simple and clear mathematical form, devised a new and advantageous terminology, and introduced most ingenious special forms of apparatus, in particular that now universally known as Wheatstone's bridge. His prismatic analysis of the light of the electric spark taken between electrodes of mercury belongs with the early history of the spectroscope, and deserves to be cited in connection with that instrument. Wheatstone's eminent services to science received the fullest recognition during his lifetime, in both wealth and honor. It is, perhaps, too soon to measure his intellectual stature with perfect fairness, and materials for the story of his life are still wanting; but his name will always be associated with two of the most beautiful and useful of human inventions. On the 19th of October last, he closed a life which may well be called memorable.

Since the last Annual Meeting, the Academy has received an accession of nineteen new members: eight Fellows, — Henry Adams, Thomas Dwight, R. T. Edes, E. L. Godkin, Charles E. Hamlin, Hiram F. Mills, Ira Remsen, John L. Sibley; eight Associate Fellows, — A. N. Arnold, Joseph Le Conte, F. A. Genth, D. C. Gilman, O. C. Marsh, Alfred M. Mayer, H. A. Rowland, W. Sellers; and three Foreign Honorary Members, — Balfour Stewart, A. C. Ramsay, Count Sclopis di Salerano. On the other hand, by removal from the State, or by resignation, the following ten Fellows have abandoned their membership: S. P. Andrews, A. N. Arnold, J. B. Greenough, R. S. Greenough, Thomas Hill, Nathaniel Holmes, Edward Pearce, W. H. Pettee, G. M. Searle, W. H. Swift.

The list of the Academy corrected to May 10, 1876, is hereto added. It includes 191 Fellows, 94 Associate Fellows, and 66 Foreign Honorary Members.